

REMARKS

After entry of this amendment, claims 12-24 and 26-31 are pending, of which claims 14-24 and 26-29 are withdrawn. The claims have been amended without prejudice or disclaimer. Support is found *inter alia* in the original claims. Further support for the amendments to claim 12 is found in the specification at page 111, lines 4-17. Further support for the amendment to claim 13 can be found at page 111, lines 19-23. New claims 30 and 31 find support in original claims 7 and 11, respectively, and are consistent with the restriction requirement. No new matter has been added.

In the amendment to the specification, the title has been amended, and the heading and associated paragraph referencing the related applications already of record have been added. No new matter has been added.

Rejections under 35 U.S.C. § 102

The Examiner rejects claims 12 and 13 under 35 U.S.C. 102(e) as being anticipated by Rodriguez *et al.* (WO 03/077950, hereinafter "Rodriguez"). Applicants respectfully disagree and traverse the rejection.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegall Bros., Inc. v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987). "[T]o hold that a prior art reference anticipates a claim, the Board must expressly find that every limitation in the claim was identically shown in the single reference." *Gechter v. Davidson*, 116 F.3d 1454, 1460 (Fed. Cir. 1997).

Applicants respectfully submit that Rodriguez does not anticipate the present invention for the following reasons.

Rodriguez discloses an extract from which astaxanthin can be produced by semi-synthesis (Rodriguez, page 1, line 9-10). In contrast, the transgenic marigold plants of the present invention are astaxanthin-containing plants, (*i.e.* plants which already contain

astaxanthin). Natural marigold plants do not contain astaxanthin as explained in the present specification at page 2, lines 27-30, and in Rodriguez at page 2, lines 16-19, and page 3, lines 7-8; but produce a 'precursor' of astaxanthin named 'Lutein' (see also Rodriguez at page 9, REACTION SCHEME). Lutein is extracted, isomerized to zeaxanthin (the double bond in the right ring changes its position) and then oxidized to astaxanthin (two keto-functions have been introduced in the left and right ring), which is the semi-synthesis mentioned above and disclosed in detail in Rodriguez pages 4 to 7, as also acknowledged by the Examiner.

The invention however relates to transgenic marigold plants which are able – by introduction of the respective genes – to produce astaxanthin in the plants, e.g. in the flowers of marigold. Because the transgenic marigold plants produce astaxanthin, it is possible to use the plants or parts of the plants directly as feed components (first alternative of claim 12). In contrast, the plants in Rodriguez do not contain astaxanthin and cannot be used without first extracting lutein and subjecting the precursor to a further chemical synthesis to obtain astaxanthin (see Rodriguez pages 4 to 7). Furthermore, the extracts from astaxanthin-containing plants of the present invention are astaxanthin, whereas Rodriguez extracts lutein which requires further transformation by chemical synthesis to obtain astaxanthin. Rodriguez does not teach plants or parts of plants of the genus *Tagetes* that contain astaxanthin as required by the present claims.

Because Rodriguez does not disclose every limitation of the claims, Rodriguez does not anticipate the claims. Reconsideration and withdrawal of this rejection is respectfully requested.

Rejections under 35 U.S.C. § 112, second paragraph

The Examiner rejects claim 13 for indefiniteness under 35 U.S.C. 112, second paragraph, based on lack of antecedent basis. In light of the amendments, this rejection is believed to be rendered moot. Reconsideration and withdrawal is respectfully requested.

The Examiner also alleges that the title is not descriptive. Applicants respectfully disagree; however, to expedite prosecution, the title has been amended. In light of the

amendments, this rejection is believed to be rendered moot. Reconsideration and withdrawal is respectfully requested.

CONCLUSION

For at least the above reasons, Applicants respectfully request withdrawal of the rejections and allowance of the claims.

Accompanying this response is a Petition for a three-month extension of time to and including October 11, 2007 to respond to the Office Action mailed April 11, 2007 with the required fee authorization for the extension. No further fees are believed due. If any additional fee is due, the Director is hereby authorized to charge our Deposit Account No. 03-2775, under Order No. 13173-00004-US from which the undersigned is authorized to draw.

Respectfully submitted,

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